# Tsunami!

## Information Sharing in the Wake of Destruction

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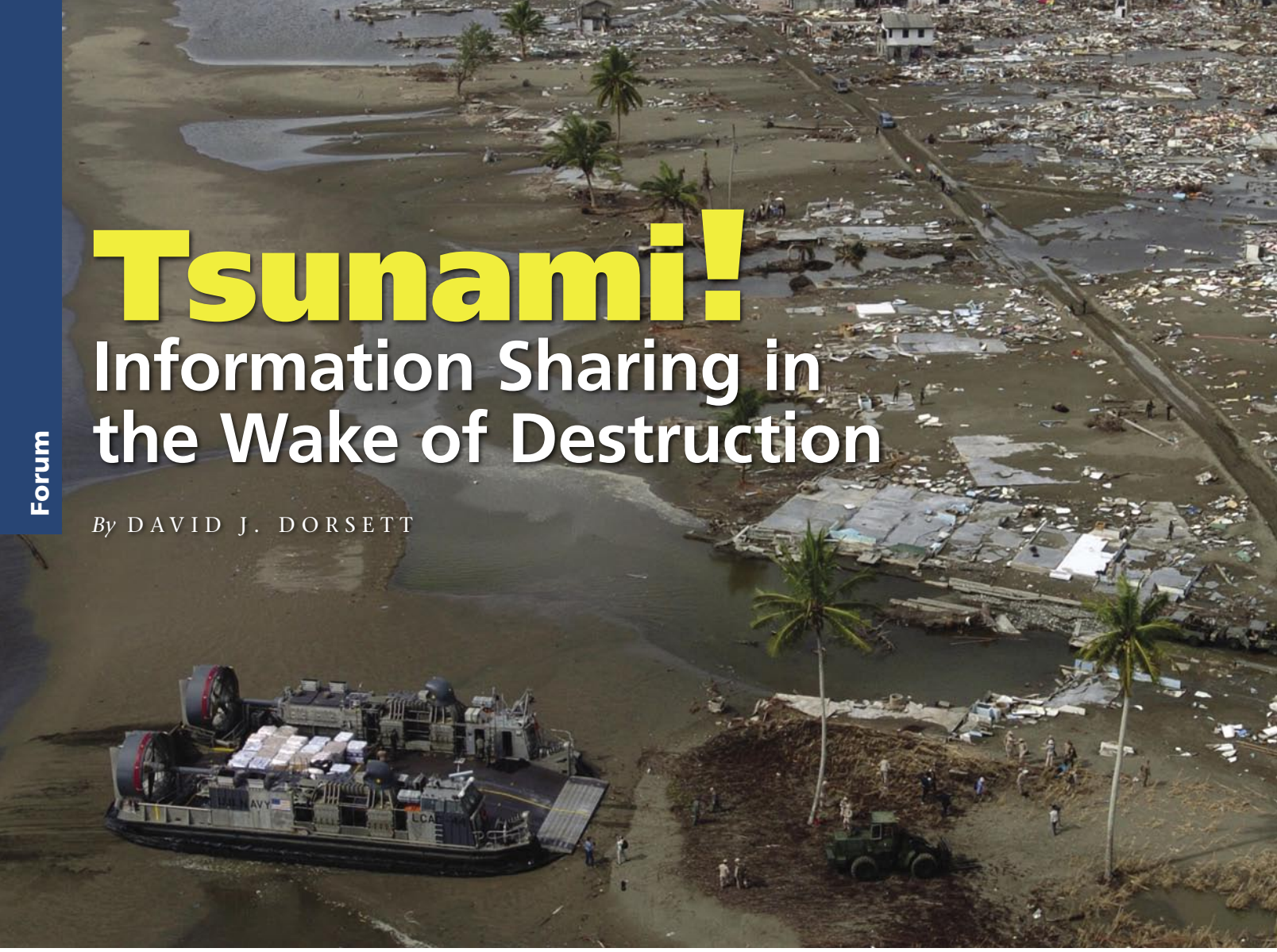

Crew from USS *Bonhomme Richard* unloading relief supplies in Sumatra, Indonesia, Operation *Unified Assistance*

On December 26, 2004, an earthquake of 9.0 magnitude jolted the Banda Aceh region on Indonesia's Sumatra Island. The quake generated a tsunami that exploded across the Indian Ocean at 500 miles per hour. The tidal surge brought death and destruction to Banda Aceh and India's Nicobar Islands 16 minutes after the quake. Within 90 minutes, the tsunami engulfed Sri Lanka's coastal areas, and within 7 hours its waves crashed into the far shores of Somalia. The ensuing catastrophe seized the attention of the world. Over 295,000 people died and 5 million were left homeless.

U.S. Pacific Command (PACOM) rapidly responded to this humanitarian disaster by initiating Operation *Unified Assistance*. The command deployed 25 ships, 45 fixed-wing aircraft, 57 helicopters, and 16,000 personnel to assist stricken countries. This force delivered over 16 million pounds of supplies and flew helicopter operations totaling over 4,000 hours. It also employed a unique command and control structure. Commander, PACOM, initially designated the commanding general of 3d Marine Expeditionary Force as commander of Joint Task Force–536. Within days, it became apparent that a traditional military command structure was not optimal for this nontraditional mission. The ensuing operation involved over 90 nongovernmental organizations (NGOs) and military forces from 18 nations. Though created as a traditional joint task force, PACOM modified JTF–536 after other countries such as Australia, Singapore,

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U.S. Navy (Bart A. Bauer)

Russia, France, and Malaysia joined it. At this point JTF–536, as a sole U.S. endeavor, became Combined Support Force (CSF)–536.

The PACOM mission during *Unified Assistance* was to support the U.S. Agency for International Development (USAID) Office of Foreign Disaster Assistance, other national forces, and international organizations in providing disaster relief to the governments of Indonesia, Sri Lanka, Thailand, and other affected nations to minimize loss of life and human suffering. This article examines the need to embed national agency representatives within theater intelligence commands to facilitate passing of timely and accurate information from the agencies to the operating forces. Although it focuses on information-sharing, which was critical to the overall operation, this piece presents a successful model of transforming U.S. forces to become more agile, adaptable, and responsive to emerging crises.

## Early Challenges

Operation *Unified Assistance* was unique on many levels. Diplomatic and cultural hurdles had to be overcome before aid could be delivered to Indonesia. Suspicion of Western military forces quickly receded as Indonesians saw the sheer magnitude of aid and the genuine concern of other nations for their welfare.

The damage and loss of life were extreme by any standard. The area of operation covered the entire Indian Ocean, with the most severe destruction in remote parts of Indonesia's Aceh region. Although the PACOM intelligence team played an important role in the early planning and intervention of military and humanitarian actors, the tsunami presented exceptional challenges, the first of which was to acquire information to assess the extent of the catastrophe.

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Weather, outdated geospatial encyclopedic data, lack of boots on the ground, and the sheer magnitude of the devastation hampered early efforts to assess the damage. Fortunately, 4 months prior to the tsunami, the Joint Intelligence Center Pacific (JICPAC) created the Contingencies Operational Intelligence Cell as a fully manned, all-source operational intelligence capability specifically structured to respond quickly to emerging crises within the theater.

During the initial days, the PACOM intelligence staff, supported by JICPAC, retained operational intelligence planning, tasking, analysis, and reporting responsibilities. Doctrine calls for the transfer of many of these duties to the JTF (in this case, CSF) intelligence staff once it has been established and has the ability to manage intelligence operations. Since this was a nontraditional crisis with limited intelligence collection available within the combined operating area, it required several days before the CSF was prepared to take over. In the interim, the JICPAC Contingencies Cell performed superbly by managing the finite intelligence collection resources, coalescing disparate information to create situational awareness for all interested parties. At the height of the operation, over 100 JICPAC operational intelligence specialists were involved.

The JICPAC Contingencies Cell commenced nonstop intelligence operations within hours of the disaster. It developed intelligence collection and production requirements. National intelligence agency representatives embedded in the contingency team reached back to their agencies for additional support. This interagency partnership between the theater intelligence center and national intelligence agencies ultimately resulted in the highly successful delivery of information to forward-deployed forces.

Human intelligence and counterintelligence requirements increased as the U.S. military relief operations footprint grew in Aceh. Of critical concern was the need to discover the activities of terrorist groups and radical factions. The JICPAC Transnational Threats Operational Intelligence Cell, which is responsible for analysis of terrorist activities in the theater, also worked around the clock to assess threats and provide force protection reporting to U.S. forces. Personnel from JICPAC also deployed to the region to work with host nation military forces and U.S. commanders to ensure comprehensive synchronization and flow of threat information.

Despite the JICPAC focus, it took several weeks rather than hours or days to attain a reliable picture of the situation on the ground. For example, traditional damage assessment methods using airborne imagery failed to present the true nature of the destruction.


Relief supplies for tsunami victims being unloaded in Banda Aceh, Indonesia, as part of Combined Support Force–536

1st Combat Camera Squadron (Jeromy K. Cross)

Although "order of battle" descriptions were provided of the damage in towns and along roads, the PACOM commander commented during a visit to Banda Aceh that the real extent of the devastation could only be understood by seeing the damage firsthand.

### Information Sources

Operation *Unified Assistance* presented unusual challenges for the intelligence team, specifically with sources. Traditional outlets of information (military human, airborne imagery, and technical) had limited value in illuminating the situation. New sources had to be acquired and exploited. For example, the handful of U.S. military representatives in affected nations was insufficient to perform their array of crisis responsibilities, which included developing a solid understanding of conditions on the ground. These small offices and detachments were quickly inundated with requests for assistance from the host nations and spent much of their initial time in capital cities working with their counterparts and in communication with PACOM headquarters, the Combined Support Force commander, and U.S. national agencies. They faced the dilemma of either assessing damage or assisting in the transit of follow-on U.S. personnel to host nations to provide humanitarian support. As a result, PACOM deployed additional personnel to affected nations to assist U.S. Embassy military personnel mere days after the tsunami. The lesson is clear: boots on the ground early in a humanitarian disaster are critical to developing situational awareness.

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Two nontraditional sources of information—open source and commercial imagery—were critical to Operation *Unified Assistance*. Open source, unclassified reporting from host nations, NGOs, and non-Defense U.S. agencies, provided a wealth of knowledge. In particular, USAID, the Office of Federal Disaster Assistance, and the United Nations Joint Logistics Center maintained outstanding home pages that provided timely, reliable information on the extent of damage and the status of humanitarian relief activities. USAID Disaster Assistance Response Teams included advisers, water and sanitation experts, and field and information officers. Teams were located in each of the affected countries and provided key on-the-ground insights on conditions. The Center of Excellence in Disaster Management and Humanitarian Assistance also maintained a world-class home page. The expertise and contacts of this latter organization (a DOD-supported center in Hawaii) proved crucial for PACOM throughout *Unified Assistance*.

Commercial imagery was also a linchpin. The importance of sharing imagery with host nations, NGOs, and

other international aid organizations was vital. Although the United States and allied nations flew reconnaissance aircraft to assess the damage, some of the best early assessments were provided by commercial imagery organizations. In particular, Digital Globe furnished comprehensive imagery coverage of the devastated areas in Banda Aceh within days of the disaster. These first-rate products were unclassified and were quickly shared with host nations and NGOs.

Although commercial imagery was vital to the intelligence operation, U.S. P–3 reconnaissance aircraft and helicopters using cameras deployed early to provide detailed photography of key ports, towns, and lines of communication. Not only was this unclassified and releasable intelligence valuable in ascertaining damage, but it also helped early efforts by selected nations to plan reconstruction of their coastal regions.

## Information Flow and Cooperative Activities

Significant advances in bilateral communications with allied nations have emerged in recent years, enabling increased speed of delivery of information to other nations participating in these largely unclassified military operations. Yet many difficulties remain in disclosure of information, as not all participating nations practice the same level of information sharing with the United States. Therefore, in any international, interagency disaster relief operation, considerable effort must be applied to coordinating the flow of information among all participants.

Fortunately, the many successes during this operation have helped overcome perceptions that intelligence support for disaster relief has not been commensurate with customer needs. For example, during *Unified Assistance*, intelligence products were developed at the lowest possible classification to allow wide release, facilitate maximum distribution of threat data, and share other details with those trying to ease the suffering. These disclosures improved trust and collaboration across civil-military and international lines and enhanced humanitarian assistance accordingly.

As the operation progressed, the number of nations involved and the United Nations/NGO footprint continued to grow. PACOM found itself in the unfamiliar territory of a predominantly unclassified environment, with 95 percent of the data used by the intelligence professionals used being unclassified.

Intelligence professionals worked closely with the PACOM chief information officer to develop an unclassified tsunami Web page. As the operation continued, the command's Asia-Pacific Area Network unclassified commercial Web site became a primary source for NGOs, vital for involving nontraditional security partners, who are essential in humanitarian assistance operations that cover a broad area and cross national borders.

The unique nature of *Unified Assistance* created extensive and urgent requirements for commercial satellite imagery. With the help of the National Geospatial-Intelligence Agency and its imagery and geospatial analysts embedded within JICPAC, PACOM supported operational forces, allies, and affected nations. The command pushed the limits of the commercial imagery support infrastructure, revealing shortfalls in the tasking and requirements management process. For example, the end-to-end process from tasking, through collection, to exploitation and dissemination took about 5 days. Additional effort is needed to refine processes and shorten timelines.

The command also discovered shortfalls in the dissemination infrastructure that inhibited the electronic distribution of large file formats associated with geospatial products. Intelligence teams often had to send JPG files on classified networks to regional U.S. Embassies. The Embassy teams had to download the information and disseminate hard copy materials to host nations. Certain large format geospatial products had to be printed at PACOM and express-mailed or hand-carried to affected countries because host nations, U.S. Embassies, and deployed U.S. ships and operating bases lacked adequate printing capabilities. One key product had to be hand-carried to Jakarta for a high-level meeting hosted by the government of Indonesia on the issue of long-term reconstruction of the Aceh region. This geospatial product provided details on damaged lines of communications, which greatly enhanced the government's ability to assess damage and direct reconstruction. In addition, during operational intelligence briefings at command

1st Combat Camera Squadron (Sarayuth Pinthong)

**International forces meet in U Tapao, Thailand, to receive information on Operation *Unified Assistance***

1st Combat Camera Squadron (John M. Foster)

**Army engineer in Meulabah, Indonesia, as part of Combined Support Force–536, one of over 18,000 U.S. servicemembers working with international militaries and nongovernmental organizations to aid tsunami victims**

headquarters, current intelligence products were also provided to regional Consul Generals to facilitate international dialogue and improve the momentum of humanitarian relief.

## Partnerships

Operation *Unified Assistance* confirmed the value of the strategic partnerships established among the governments and international agencies in the theater, U.S. intelligence agencies, and the operational forces.

*Combined Support Force (CSF)*. Partnerships were critical to leveraging finite intelligence resources throughout the DOD/national intelligence community and avoiding duplication. Foremost was the symbiotic relationship between the theater Joint Intelligence Center and theater operating forces. JICPAC Operational Intelligence Cells established constant, collaborative information sharing with the CSF, which benefited all participating agencies and nations. The past paradigm of producing intelligence on a daily basis is grossly inadequate for today's operational requirements. Constant dialogue and exchange of data by email and video teleconference are the current media for providing near real-time intelligence.

*Armed Forces Medical Intelligence Center (AFMIC)*. AFMIC established round-the-clock communications between its operations center and JICPAC contingencies cells to rapidly provide medical intelligence regarding the spread of infectious disease and vector-borne illnesses. It also deployed liaison personnel on short notice to the PACOM area of operations. One officer deployed to U Tapao, Thailand, in direct support of the Combined Support Force, another officer was embedded in the command surgeon general's office. These medical intelligence professionals coordinated with the U.S. Centers for Disease Control and Prevention and Department of Agriculture and ensured consistent flow of information across agencies, commands, allied nations, and NGOs. AFMIC assisted Pacific Command with assessing infectious disease and environmental health risks in the disaster areas and the status of medical facilities. It also generated over 100 products, to include assessments of bed-down sites for deploying

forces and Web sites that served as one-stop resources for medical intelligence.

*National Geospatial-Intelligence Agency (NGA).* The embedded NGA team, operating at JICPAC and within PACOM headquarters, was vital in coordinating engagement and delivering commercial imagery and geospatial products daily throughout the operation. NGA output helped the command assess the damage. As much information as possible was shared with other government organizations, such as USAID. The bulk of the products provided to host nations and NGOs consisted of commercial satellite imagery to show the scope of damage and assist PACOM in assessing priorities for emergency relief. Maps of affected areas were updated daily. Archive commercial and national technical means imagery was overlaid with the latest updates to determine coastal changes. Another product use was finding safe helicopter landing zones and sites for displaced person camps. *Unified Assistance* showed the need to embed national agency representatives with theater intelligence commands to coordinate timely, responsive provision of information from the agencies to the operating forces.

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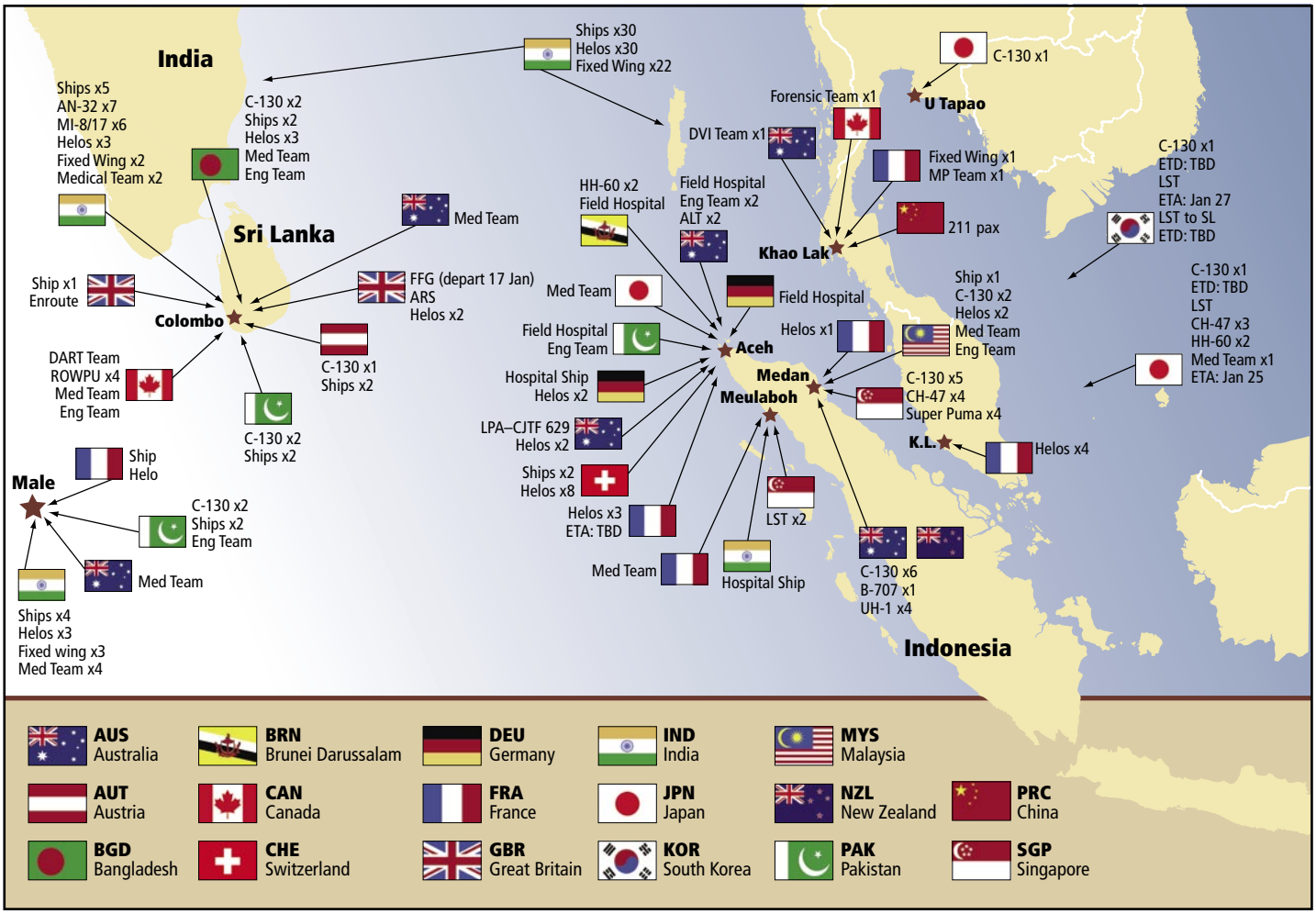
*Defense Attaché Offices.* Defense attachés provided brilliant responsiveness and engagement with allies in Indonesia, Thailand, India, and Sri Lanka. At the outset of the relief effort, offices in affected countries were passing information to PACOM to assist in situation awareness and host nation military coordination. At the height of the crisis, 18 nations had military forces either on the ground or at sea. Several nations were on the scene prior to the arrival of U.S. forces. The Indian and Pakistani navies provided almost immediate help to Sri Lanka. In addition, a transiting Japanese Maritime Self-Defense Force task group supported victims in Thailand. U.S. Defense attachés and Embassy country teams coordinated early interaction with these regional partners

## Non-U.S. Participants in Military Operations



to deconflict American operations. As a result of the extensive tasking on attachés, it was important to instill discipline in communicating with Defense Attaché Offices so as not to overwhelm their relatively small staffs with duplicative information and requirements. The solution was creation of a dedicated, round-the-clock Support Element Cell to act as the single point of contact for PACOM, the country teams, and partner nation militaries.

*PACOM Center of Excellence in Disaster Management and Humanitarian Assistance*. The Center of Excellence provided a crucial capability not resident in the intelligence structure: a standing organization of professionals networked with the necessary information resources and capable of compiling information from NGOs, the United Nations, and open sources to describe the situation on the ground. This was a key enabler in *Unified Assistance* and will be a center of gravity for future PACOM humanitarian assistance and disaster relief operations. Experts from the center deployed to the three countries hardest hit—Sri Lanka, Thailand, and Indonesia—and provided on-site reporting and coordination. The center's Web site provided insights not attainable by traditional intelligence collection and exploitation.

*Foreign partnerships*. Together, PACOM and its foreign partners were able to seek innovative, secure, and practical solutions to myriad problems. This cooperation did not come without challenges. The command had to embrace the military contributions of other nations and coordinate with nontraditional partners, which was accomplished by leveraging experience built through multinational training and exercise programs. Expanding, maintaining, and improving regional relationships are vital to dominating the battlespace.

## New Operating Concepts

The success of Operation *Unified Assistance* was due, in part, to the ability of the U.S. Intelligence Community to adapt and respond with agility. The operation validated concepts and initiatives that have been implemented in PACOM in recent months.

*Operational Intelligence Cell*. Foremost among the new concepts was the establishment of the Contingencies Support Operational Intelligence Cell within JICPAC. This all-source operational intelligence cell was formed into a holistic structure to integrate analysis, collection, information management, intelligence campaign planning, targeting development, intelligence operations, and production. The cell is composed of foreign disclosure and dissemination experts, intelligence planners, and analysts of every discipline and representing, for example, imagery, ground, and political functions. Within hours of the tsunami, JICPAC commenced round-the-clock intelligence operations to ascertain details on the magnitude of destruction, establish situational awareness for the theater commander and his operational forces, and lay the foundation for international and interagency information sharing. The Contingencies Support Cell synchronized intelligence functions and provided "one-stop shopping" for Combined Support Force operational units that required intelligence associated with disaster relief. Equipped with advanced intelligence, surveillance, and reconnaissance (ISR) management and analytic tools and processes (for example, trend analysis, battlespace visualization, data/content marking, collaboration, multilevel security), the cell established a solid understanding of the most devastated areas.

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*ISR Battle Management Center*. The ISR Battle Management Center in PACOM provided a focal point for monitoring and managing ISR assets employed in *Unified Assistance*. This cell permitted end-to-end synchronization of theater intelligence reconnaissance operations and was fully integrated with the command's Joint Operations Center, the JICPAC Contingencies Support Cell, and the combined support force commander's intelligence staff. The center, located at command headquarters, was electronically linked to other commands and agencies to permit near-instantaneous awareness and management of theater and national ISR resources.

Linked with the JICPAC Operational Intelligence Cells, the ISR Battle Management Center shared a common operating picture and allowed collection managers to monitor national and tactical ISR missions, adjust collection requirements, and provide near real-time feedback to the CSF and the combatant commander. The PACOM Collection Management Board conducted daily video teleconferences with the Combined Support Force and components to ensure synchronized collection operations. The need for a dedicated ISR Battle Management Center was revalidated and is now entrenched in theater operational doctrine. This center will become the focal point for engagement with the joint force component commander for ISR when that national management entity achieves initial operational capability.

It is critical that U.S. intelligence teams learn the lessons of Operation *Unified Assistance*. We must be continuously alert to nontraditional missions requiring unique intelligence support. We must continue to strengthen partnerships across the national intelligence community with both allies and nongovernmental organizations. We must place national agency representatives in theater intelligence commands to ensure that information is passed quickly from the agencies to the operating forces. In sum, we must continue to transform our intelligence organizations so they become more agile, adaptable, and responsive to emerging crises. JFQ